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simulation entwicklung consulting

Manual and Configuration

Enertex® ProxyTouch KNX

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Notes

- Installation and mounting of electrical equipment must be carried out by qualified electricians. Please note here the section Fitting & installing instructions.
- When connecting KNX/EIB devices specialist skills provided by KNX™ trainings are required.
- Ignoring the instructions can damage the device, as well a fire or other hazards can arise.
- These instructions are part of the product and must be left with the end user.
- The manufacturer is not liable for costs or damages incurred by the user or third parties through the use of the device, misuse or malfunction of the connection, malfunction of the device or user equipment.
- Opening the housing, other unauthorized alterations and or modifications to the device will invalidate the warranty!
- The manufacturer is not liable for improper use.
- During installation, pay attention to maintenance access. Claims for damages for consequential damages due to removing is not granted and is excluded.

Help function

This pdf document uses the division into sections of the Acrobat Reader, which are also called as "bookmark". Click on the left edge on the bookmarks tab to view this.

Overview

The Enertex®-ProxyTouch KNX is a capacitive touch sensor that can be installed behind surfaces such as ceramic, wood and glass. It has three sensor areas (see Figure 7) that can be flexibly adapted to the preferences of the user:

Basic features

- The sensors can be addressed together,
- individually,
- or by slide gestures.
- For individual sensors also a double click is applicable for each sensor area.
- If the slide gesture is set, the 3 sensor areas can be additionally addressed by a double click and as a single common button.

Feedback

If you touch the tile, behind which the device was mounted, at the desired sensor area (A, B or C), so a message is written to the bus. After contact (parametrizable) an audible feedback is given, which at each panel has a different pitch (A=high, B=medium, C=low). If the back of the device is available, a light up of orange LEDs below the respective sensor area can be seen when touching the control panel. If the device is in programming mode, a red LED is visible and an acoustic signal is given. The volume of the acoustic signal can be changed in three stages.

Cleaning operation

In the device a cleaning operation mode can be activated via the group object (KNX message). When this is active and an operation/trigger of the sensors is done by the user, so no messages are triggered and parametrizable an acoustic signal is generated. The cleaning operation mode can be canceled by itself parametrized via a time constant up to max. 3h.

Application

Since the sensors react to changes in the surrounding electric field, the functionality of the ProxyTouch KNX is better given at a rapid approach than at a slow. In addition, the surface of the material has to be really touched to excite the sensor. Wiping or approaching without contact does not lead to tripping. By using double click it has to be ensured that the complete gesture was really led away from the sensor and back to it again. A simple quick tap with your finger, as usual from the computer mouse operation, is not sufficient.

Commissioning

Supply

For the operation of the Enertex® ProxyTouch KNX an external voltage supply is not needed. The device gets the supply voltage from the bus.

Connection diagram



Figure 1: Connections Front view

- Before installing the ProxyTouch in the wall the KNX cable must be connected to the KNX bus.
- Especially in case of an installation behind thicker wall coverings the white conductor in the KNX connection cable of the sensor may be connected to the protective earth of the building to increase the sensitivity. Thereby, the KNX bus is capacitively coupled to the protective earth.
- The magnetic switch button at the bottom right sets the ProxyTouch into the programming mode.

Application

The Enertex® ProxyTouch KNX can be mounted behind several materials with different thicknesses.

Material	Max. recommended material thickness
Tile	25 mm
Wood	20 mm
Glass	25 mm

To ensure the functionality completely, the maximum material thicknesses must be noted. It may be also necessary to connect the white conductor in the KNX connection cable of the sensor to the protective ground of the building. Thereby, the KNX bus is capacitively coupled to the protective earth.

The Enertex®-ProxyTouch can be installed in wet rooms. Direct water jet is to be avoided. It is recommended that the mounting position in wet rooms is so configured that splash from the biggest person hits the sensors as little as possible. In the next Figure 2, the shower head is at height of 1.95 meters, thus **the striped area** due to the angle of radiation is **not** recommended for mounting:



Figure 2: Installing position in wet rooms

The robustness of the ProxyTouch decreases with increasing water amount reacting on the surface. In contrast to the direct reaction of a water jet, low splashing and water vapor do not result to false tripping. The robustness of the ProxyTouch is substantially increased when in wet rooms the button partitioning “Slide gestures” is applied and the sensor areas are only configured as double click.

At this point it is again referenced to the application described above:

Since the sensors react to changes in the surrounding electric field, the functionality of the ProxyTouch is better at a rapid approach than at a slow. Furthermore the surface of the material has to be really touched to excite the sensor. Wiping without contact does not lead to tripping. At double click it has to be ensured that the complete gesture was led away from the sensor and back to it again. A simple quick tap with your finger, as usual from the computer mouse operation, is not sufficient.

Fitting & installing instructions

A correct installation is fundamental for Enertex® ProxyTouch KNX to work as designed, and depends on its operation area. It must also be ensured that the ProxyTouch KNX lies as flat as possible on the back, that is it should be avoided, that an “air” distance is formed between the back of the desired surface and the ProxyTouch KNX. A possible distance between the mounting material and the sensor reduce the sensor range. In particular, “air” between the two dampens the range by factor by factor 3 to 4 which means that 2mm air between sensor and back side of mounting location corresponds to a 6 to 8 mm range shortening.

During installation, pay attention to maintenance access. Claims for damages for consequential damages due to dismounting is not granted and is excluded.

Default - No waterproofing

The Enertex® ProxyTouch KNX is each aligned and fixed on the back of the desired surface. In case of tiles, plastic and glass the housing is glued to the edges using the enclosed adhesive. For wood the housing has additional holes at the corners, through which the housing can be screwed together with screws. With the use of the mounting adhesive the housing must be placed and fixed on the intended place of the material to prevent slippage during the bonding operation (Figure 3). It must be ensured that the adhesive surface is clean, dry and free of dust and grease.



Figure 3: Fixing the housing

If so, the mounting adhesive can laterally be applied 5mm high in the corner between housing and material.



Figure 4: Applying the adhesive mounting

To obtain a clean glue line, the applied mounting adhesive is spread.



Figure 5: Spreading the mounting adhesive

After the three easily accessible sides have been glued, the fixing can be untightened and the last side can be bonded. While curing, the mounting should be weighted down to ensure a very dense contact pressure at the surface. After about 6-8 hours the adhesive is so far cured that the tile can be plugged. After 24 hours the adhesive is fully cured.

Software description

Programming

The device is programmed via the ETS. By the enclosed magnet the device can be set, even after installation, into the programming mode. For this purpose the magnet is swept over the surface behind which the device is located. The activation switch is located in the upper left corner of the device and thus in the upper right corner of the surface. Once the device is in programming mode an audible signal (buzz) can be clearly heard. If the device has not yet been installed, a visual feedback (red LED) is also visible besides the audible signal.

Button partitioning

According to the parameterization up to four different messages can be transmitted to the KNX bus via the touch panels. Each panel gives an audible feedback when touched. Thereby the sound output varies from high (A) to deep (C). In the button partitioning "Slide gestures" and the function double click an even higher tone than in single button is emitted in case of successful operation.

The panel is divided into a maximum of three different sensor areas:

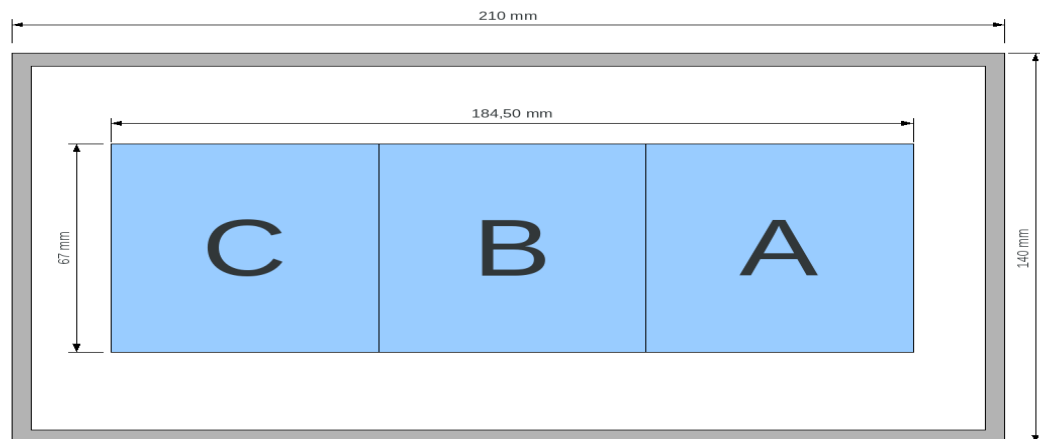


Figure 7: Panels Front view

By parametrization in the ETS the following button partitionings are available:

- **Merged buttons**

Here, the three sensor areas (A, B, C) are combined to form a one large panel. To carry out the action programmed in the ETS, touch by hand the surface, behind which the Enertex®-ProxyTouch is located.

- **Single buttons**

Here, each sensor area (A, B, C) represents a control panel. To carry out the action programmed in the ETS, touch by hand the point on the surface, behind which the corresponding control panel is located. For all sensor areas a double click is possible. The double click is triggered by two quick consecutive touches.

- **Slide gestures**

Here the slide gesture is assembled by the sensor areas (A→C) and (C→A). To carry out the action programmed in the ETS, sweep with the open hand over the surface, behind which the Enertex®-ProxyTouch is located. To detect a slide gesture the hand movement must not be too slow. The sensor areas have two button functions, wherein for all sensor areas a common single button and a double click is possible. The double

click is triggered by 2 quick consecutive touches.

Lock object

In each button partitioning the object function Lock object is available. With this object it is possible to lock the sensor areas whereby no action can be carried out any more. This is important for example for the cleaning operation to prevent unwanted triggering. If the object has been set, it can be heard by an audible signal (buzz) during operation of the sensor.

Specification

ETS: from version 3.0d, patch A

ETS Application - Parameter

Note: Depending on the configuration some settings may not be available. They are not shown in the ETS in these cases.

General

Under the tab "General" the following settings can be made:

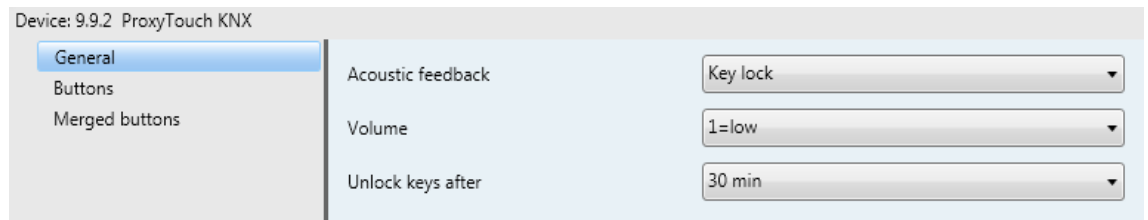


Figure 8: General settings

Description of the parameters:

Name	Options	Description
Acoustic feedback	Off Function Key lock Function/key lock	Mode in which an acoustic feedback is given.
Volume	1 / 2 / 3	Volume of the audible feedback from 1 (low) to 3 (high)
Unlock keys after	5 min 10 min 15 min ... 3 h -	Time, after which the key lock is to be automatically turned off. “-”=key lock is not turned off automatically

Buttons

Under the tab “Buttons” the following settings can be made:



Figure 9: Parameter Buttons

Description of the parameters:

Name	Options	Description
Button partitioning	Merged buttons / Single buttons / Slide gestures	setting of the panels

Configuration of buttons

Description of the parameters:

Name	Options
Merged buttons	Switch / Dim / Blinds / Start scene / Percentage
Single button A	Switch / Dim / Blinds / Start scene / Percentage
Single button B	Switch / Dim / Blinds / Start scene / Percentage
Single button C	Switch / Dim / Blinds / Start scene / Percentage
Double click A	Switch / Dim / Blinds / Start scene / Percentage
Double click B	Switch / Dim / Blinds / Start scene / Percentage
Double click C	Switch / Dim / Blinds / Start scene / Percentage
Slide gesture A→C	Switch / Dim / Blinds / Start scene / Percentage
Slide gesture C→A	Switch / Dim / Blinds / Start scene / Percentage
Single button	Switch / Dim / Blinds / Start scene / Percentage
Double click A	Switch / Dim / Blinds / Start scene / Percentage

Double click B	Switch / Dim / Blinds / Start scene / Percentage
Double click C	Switch / Dim / Blinds / Start scene / Percentage

1st order	2nd order	3rd order	Options	Description
Switch	Value		0 / 1 / Toggle	Value which is transmitted on the bus
Dim	Dim (relatively)	Action	Decreasing / Increasing	Decreases or increases to set stage
		Step	0 - 7	0 = no change / 1 = 100 % / 2 = 50 % / 3 = 25 % / 4 = 12 % / 5 = 6 % / 6 = 3 % / 7 = 1 %
	Switch	Value	0 / 1 / Toggle	Value to be transmitted on the bus.
	Brightness	Percentage	0 – 255	Percentage which is written on the bus
Blinds	Up/down - up			Blinds move upwards
	Up/down - down			Blinds move downwards
	Step - increase/ STOP			Adjustment of the slat or stop the blind
	Step - decrease/ STOP			Adjustment of the slat or stop the blind
	Position	Percentage	0 - 255	Blinds move to the selected percentage
Start scene	Scene number		1 – 64	Enables the scene with the specified number
Percentage	Percentage		0 – 255	Percentage is written on the bus.

Group objects

Notes:

- Depending on the configuration some objects may not be available.

List of data point types (DPTs)

Typ	Name	Length	Description	Value
[1.1]	DPT_Switch	1 Bit	Switching	1, 0
[1.3]	DPT_Enable	1 Bit	Switching	1, 0
[1.7]	DPT_Step	1 Bit	Switching	1, 0
[1.8]	DPT_UpDown	1 Bit	Switching	1, 0
[3.7]	DPT_Control_Dimming	4 Bit	Relatively Dimming	0 = Stop 1 = 100 % 2 = 50 % 3 = 25 % 4 = 12 % 5 = 6 % 6 = 3 % 7 = 1 %

[5.1]	DPT_Scaling	1 Byte	Value	Percentage 0% = 0.....255 = 100%
[18.1]	DPT_SceneControl	1 Byte	Calling scene	0.....63

ID	Name	Object function	Length	Type	Flags
0	General	Lock object	1 Bit	[1.3] DPT_Enable	RWCT--

ID	Name	Object function	Length	Type	Flags
1	Merged buttons	Switch	1 Bit	[1.1] DPT_Switch	--CT--

ID	Name	Object function	Length	Type	Flags
2	Merged buttons	Dimmer	4 Bit	[3.7] DPT_Control_Dimming	--CT--

ID	Name	Object function	Length	Type	Flags
3	Merged buttons	Percentage	1 Byte	[5.1] DPT_Scaling	--CT--

ID	Name	Object function	Length	Type	Flags
4	Merged buttons	Scene	1 Byte	[18.001] DPT_SceneControl	--CT--

ID	Name	Object function	Length	Type	Flags
5	Merged buttons	Up/down	1 Bit	[1.8] DPT_UpDown	--CT--

ID	Name	Object function	Length	Type	Flags
6	Merged buttons	Step	1 Bit	[1.007] DPT_Step	--CT--

ID	Name	Object function	Length	Type	Flags
7	Single button A	Switch	1 Bit	[1.1] DPT_Switch	--CT--

ID	Name	Object function	Length	Type	Flags
8	Single button A	Dimmer	4 Bit	[3.7] DPT_Control_Dimming	--CT--

ID	Name	Object function	Length	Type	Flags
9	Single button A	Percentage	1 Byte	[5.1] DPT_Scaling	--CT--

ID	Name	Object function	Length	Type	Flags
10	Single button A	Scene	1 Byte	[18.001] DPT_SceneControl	--CT--

ID	Name	Object function	Length	Type	Flags
11	Single button A	Up/down	1 Bit	[1.8] DPT_UpDown	--CT--

ID	Name	Object function	Length	Type	Flags
12	Single button A	Step	1 Bit	[1.007] DPT_Step	--CT--

ID	Name	Object function	Length	Type	Flags
13	Single button B	Switch	1 Bit	[1.1] DPT_Switch	--CT--
14	Single button B	Dimmer	4 Bit	[3.7] DPT_Control_Dimming	--CT--
15	Single button B	Percentage	1 Byte	[5.1] DPT_Scaling	--CT--
16	Single button B	Scene	1 Byte	[18.001] DPT_SceneControl	--CT--
17	Single button B	Up/down	1 Bit	[1.8] DPT_UpDown	--CT--
18	Single button B	Step	1 Bit	[1.007] DPT_Step	--CT--
19	Single button C	Switch	1 Bit	[1.1] DPT_Switch	--CT--
20	Single button C	Dimmer	4 Bit	[3.7] DPT_Control_Dimming	--CT--
21	Single button C	Percentage	1 Byte	[5.1] DPT_Scaling	--CT--
22	Single button C	Scene	1 Byte	[18.001] DPT_SceneControl	--CT--
23	Single button C	Up/down	1 Bit	[1.8] DPT_UpDown	--CT--
24	Single button C	Step	1 Bit	[1.007] DPT_Step	--CT--
25	Slide gesture from A to C	Switch	1 Bit	[1.1] DPT_Switch	--CT--
26	Slide gesture from A to C	Dimmer	4 Bit	[3.7] DPT_Control_Dimming	--CT--

ID	Name	Object function	Length	Type	Flags
27	Slide gesture from A to C	Percentage	1 Byte	[5.1] DPT_Scaling	--CT--
28	Slide gesture from A to C	Scene	1 Byte	[18.001] DPT_SceneControl	--CT--
29	Slide gesture from A to C	Up/down	1 Bit	[1.8] DPT_UpDown	--CT--
30	Slide gesture from A to C	Step	1 Bit	[1.007] DPT_Step	--CT--
31	Slide gesture from C to A	Switch	1 Bit	[1.1] DPT_Switch	--CT--
32	Slide gesture from C to A	Dimmer	4 Bit	[3.7] DPT_Control_Dimming	--CT--
33	Slide gesture from C to A	Percentage	1 Byte	[5.1] DPT_Scaling	--CT--
34	Slide gesture from C to A	Scene	1 Byte	[18.001] DPT_SceneControl	--CT--
35	Slide gesture from C to A	Up/down	1 Bit	[1.8] DPT_UpDown	--CT--
36	Slide gesture from C to A	Step	1 Bit	[1.007] DPT_Step	--CT--
37	Slide gesture double click B	Switch	1 Bit	[1.1] DPT_Switch	--CT--
38	Slide gesture double click B	Dimmer	4 Bit	[3.7] DPT_Control_Dimming	--CT--
39	Slide gesture double click B	Percentage	1 Byte	[5.1] DPT_Scaling	--CT--
40	Slide gesture double click B	Scene	1 Byte	[18.001] DPT_SceneControl	--CT--

ID	Name	Object function	Length	Type	Flags
41	Slide gesture double click B	Up/down	1 Bit	[1.8] DPT_UpDown	--CT--
42	Slide gesture double click B	Step	1 Bit	[1.007] DPT_Step	--CT--
43	Slide gesture single button B	Switch	1 Bit	[1.1] DPT_Switch	--CT--
44	Slide gesture single button B	Dimmer	4 Bit	[3.7] DPT_Control_Dimming	--CT--
45	Slide gesture single button B	Percentage	1 Byte	[5.1] DPT_Scaling	--CT--
46	Slide gesture single button B	Scene	1 Byte	[18.001] DPT_SceneControl	--CT--
47	Slide gesture single button B	Up/down	1 Bit	[1.8] DPT_UpDown	--CT--
48	Slide gesture Single button B	Step	1 Bit	[1.007] DPT_Step	--CT--
49	Slide gesture double click A	Switch	1 Bit	[1.1] DPT_Switch	--CT--
50	Slide gesture double click A	Dimmer	4 Bit	[3.7] DPT_Control_Dimming	--CT--
51	Slide gesture double click A	Percentage	1 Byte	[5.1] DPT_Scaling	--CT--
52	Slide gesture double click A	Scene	1 Byte	[18.001] DPT_SceneControl	--CT--
53	Slide gesture double click A	Up/down	1 Bit	[1.8] DPT_UpDown	--CT--
54	Slide gesture double click A	Step	1 Bit	[1.007] DPT_Step	--CT--

ID	Name	Object function	Length	Type	Flags
55	Slide gesture double click C	Switch	1 Bit	[1.1] DPT_Switch	--CT--
56	Slide gesture double click C	Dimmer	4 Bit	[3.7] DPT_Control_Dimming	--CT--
57	Slide gesture double click C	Percentage	1 Byte	[5.1] DPT_Scaling	--CT--
58	Slide gesture double click C	Scene	1 Byte	[18.001] DPT_SceneControl	--CT--
59	Slide gesture double click C	Up/down	1 Bit	[1.8] DPT_UpDown	--CT--
60	Slide gesture double click C	Step	1 Bit	[1.007] DPT_Step	--CT--
61	Single button double click A	Switch	1 Bit	[1.1] DPT_Switch	--CT--
62	Single button double click A	Dimmer	4 Bit	[3.7] DPT_Control_Dimming	--CT--
63	Single button double click A	Percentage	1 Byte	[5.1] DPT_Scaling	--CT--
64	Single button double click A	Scene	1 Byte	[18.001] DPT_SceneControl	--CT--
65	Single button double click A	Up/down	1 Bit	[1.8] DPT_UpDown	--CT--
66	Single button double click A	Step	1 Bit	[1.007] DPT_Step	--CT--
67	Single button double click B	Switch	1 Bit	[1.1] DPT_Switch	--CT--
68	Single button double click B	Dimmer	4 Bit	[3.7] DPT_Control_Dimming	--CT--

ID	Name	Object function	Length	Type	Flags
69	Single button double click B	Percentage	1 Byte	[5.1] DPT_Scaling	--CT--
70	Single button double click B	Scene	1 Byte	[18.001] DPT_SceneControl	--CT--
71	Single button double click B	Up/down	1 Bit	[1.8] DPT_UpDown	--CT--
72	Single button double click B	Step	1 Bit	[1.007] DPT_Step	--CT--
73	Single button double click C	Switch	1 Bit	[1.1] DPT_Switch	--CT--
74	Single button double click C	Dimmer	4 Bit	[3.7] DPT_Control_Dimming	--CT--
75	Single button double click C	Percentage	1 Byte	[5.1] DPT_Scaling	--CT--
76	Single button double click C	Scene	1 Byte	[18.001] DPT_SceneControl	--CT--
77	Single button double click C	Up/down	1 Bit	[1.8] DPT_UpDown	--CT--
78	Single button double click C	Step	1 Bit	[1.007] DPT_Step	--CT--

Communication flags according to the KNX specification with the following functions:

- R = Read: allows to read a value from group object
- W = Write: allows to write to the group object
- C = Communication: bus communication possible
- T = Transmit: allows a transmission of a value (usually indicates this flag the transmitting GA)
- U = Update: allows to update a group object with any feedback ("listen and synchronize" - functionality)